RESOURCE CONFLICT INSTITUTE

POLICY BRIEF

Indigenous Knowledge and the Governance of Kenya's Rangelands

Cultural Heritage as Evidence for Pastoral Policy



KEY MESSAGES

1. Pastoral communities in Kenya's rangelands hold extensive, place-specific knowledge built through continuous, long-term observation of rainfall, vegetation, water, livestock behaviour, disease and seasonal change. That knowledge functions as evidence, not folklore.
2. This knowledge already shapes real decisions — where to graze, when to move, which water points to use, which animals to keep, when to draw on a drought reserve. Rangeland governance depends on it whether or not policy formally recognises it.
3. Conventional monitoring and early-warning systems, built around periodic sampling and fixed thresholds, can miss local and rapidly changing conditions that pastoralists are already responding to, which means formal systems sometimes register a problem only after communities have already acted on it.
4. Indigenous and scientific knowledge are complementary systems that see different aspects of the same landscape, at different scales and timeframes. Neither should function as the standard the other is checked against.
5. Knowledge transmission is under real pressure. The loss of elders, migration by young people, changing livelihoods and land use, and fewer opportunities to learn herding and forecasting through direct practice all weaken a community's capacity to reproduce and adapt what it knows.
6. Women, elders and youth hold and transmit different parts of this knowledge system through different channels. Governance arrangements that overlook this uneven distribution routinely miss who most needs a seat at the table.
7. Moving from consultation to reciprocity, where knowledge holders help define research questions, interpret findings and share in the benefits of their knowledge, is what will determine whether integration into rangeland policy is genuine or symbolic.

EXECUTIVE SUMMARY

Across Kenya's rangelands, herding households read rainfall, vegetation, water, livestock behaviour, disease signs and the turn of the seasons continuously, not as a cultural performance but because a herd's survival through the next dry season depends on it. A herder who notices forage quality shifting earlier than usual, or animals behaving differently ahead of rain, is applying a body of observation built and tested across generations in a specific place. That body of observation is not a tradition running alongside the technical work of rangeland management. It is locally specific evidence, generated through sustained interaction with an environment that changes on timescales most external monitoring struggles to match.

Kenyan and regional policy documents now routinely describe indigenous knowledge as something to recognise, value or preserve. That instinct is not wrong, but it stops short of the harder question this brief addresses. The issue is not whether indigenous knowledge is more reliable than scientific knowledge, or the reverse. Different knowledge systems observe different aspects of the same landscape, at different scales and over different timeframes, and each has genuine blind spots the other can fill. The policy question is whether Kenya builds credible mechanisms for these systems to work together in the decisions that actually govern rangelands, grazing management, mobility, drought reserves, water access, land-use planning, restoration and early warning, or whether indigenous knowledge continues to be acknowledged in principle while decision-making proceeds largely without it. What follows sets out what this knowledge consists of, where formal monitoring systems miss what it already captures, who holds and transmits it, and what moving from recognition to reciprocity would actually require.

1. What Counts as Knowledge

The distinction between indigenous and scientific knowledge is often drawn as though one were opinion and the other were method. In Kenya's rangelands a more useful distinction is between two observational traditions that work at different scales and answer different questions. Pastoral knowledge offers continuous, fine-grained observation of a specific place: which pasture is recovering and which is not, how livestock behaviour shifts ahead of a change in weather, which water points still hold water in a bad year, which mobility routes remain viable, how drought responses have worked in the past, and how neighbouring communities have negotiated shared access to scarce resources. Scientific systems offer a different but equally necessary set of strengths: multi-decade rainfall and vegetation records, satellite observation across large areas, disease surveillance, statistical modelling, and comparison across regions that no single household or community can undertake alone.

Neither tradition should be treated as the standard against which the other is checked. Pastoral knowledge is not infallible; herd-movement decisions can misjudge conditions, and drought predictions based on observed signs fail often enough that no community treats them as certain. Scientific monitoring, in turn, can be too coarse to catch a localised shift in forage condition or a water point drying out weeks before a regional dataset would register it. Kenya's rangelands sustain indigenous livestock breeds, native grasses, pollinators and medicinal plants whose survival depends substantially on management practices, mobility, rotational grazing and selective use of fodder trees and browse, that pastoral knowledge developed and continues to refine. Treating the two systems as complementary rather than hierarchical means asking, for any given governance decision, what each can see that the other cannot, and building monitoring and planning processes that draw on both.

2. A Living Archive Under Pressure

What this knowledge consists of is specific rather than symbolic. It includes seasonal grazing calendars calibrated to particular ecological zones; knowledge of which fodder trees and grasses sustain livestock through dry-season stress, including drought-feeding practices such as preparing acacia pods and browse as emergency fodder; indigenous methods of weather forecasting drawing on animal behaviour, plant flowering patterns and atmospheric signs; knowledge of livestock disease indicators and herd health management; breed selection and herd composition decisions that spread risk across drought and disease cycles; knowledge of mobility routes and the water points and grazing areas they connect; and the negotiated arrangements, elders' councils, reciprocal grazing agreements between clans and neighbouring communities, and rules governing access to drought reserves, that allow shared resources to be used without recurring conflict. This is a living system because it is tested, adjusted and passed on through practice rather than fixed in a document, adapting as rainfall patterns, land use and herd composition change.

That transmission is under real pressure. The loss of elders who hold the deepest accumulated observation, migration by young people toward towns and cities in search of income, changing livelihoods and land use, and declining opportunities for young people to learn herding, grazing negotiation and forecasting through direct practice all weaken the channels through which this knowledge moves from one generation to the next. This does not mean the knowledge disappears the moment transmission weakens; communities have shown real capacity to reconstruct and adapt practice even after disruption. What weakened transmission reliably does is reduce a community's ability to reproduce, test and adapt its knowledge in real time, which matters precisely because the value of this knowledge lies in its capacity to keep updating against a changing landscape, not in preserving a fixed inventory of past practice.

3. Where the Data Systems Get It Wrong

Most rangeland monitoring and early-warning systems in Kenya are built around a settled reference point: fixed monitoring stations, periodic sampling intervals and thresholds that trigger a drought classification or an intervention once crossed. Pastoral production does not wait for a threshold. Well before a formal indicator moves, herders are already changing grazing areas, moving herds toward dry-season or drought reserves, adjusting herd composition and livestock numbers to manage risk, shifting the balance between browse and grass-fed forage, and negotiating access to water and pasture held by neighbouring communities. These are anticipatory decisions, made continuously and locally, responding to conditions a periodic, area-averaged dataset may not yet show. A monitoring system calibrated only to detect risk once a threshold is crossed can therefore register a problem after pastoral communities have already begun responding to it, which is a design gap in the monitoring system rather than a failure of the communities being monitored.

Community-based observation networks, which combine local weather stations, satellite data and community-generated indicators on herd condition, forage availability and nutrition, address this gap directly, because they operate at the same continuous, localised cadence that pastoral decision-making already runs on. Digital early-warning platforms, mobile market and price applications, and livestock traceability tools can extend this further, but their value depends on whether they are designed around pastoral mobility and negotiated access as the normal condition of the system, rather than as an exception accommodated after the fact. None of this argues for replacing scientific monitoring with local observation. It argues for integrating the two, so that a county drought response, a national early-warning bulletin or a rangeland restoration plan draws on both the area-wide pattern a satellite can show and the local, anticipatory signal a herder or community observer already has.

4. Custodianship, Gender and Generational Transfer

The more useful question here asks who holds this knowledge, who applies it in daily decisions, who transmits it to the next generation, and who has actual influence over the governance decisions that knowledge is meant to inform. These are frequently different people. Women manage much of the daily practice through which ecological knowledge is generated and applied: milking, herd health observation, water and fuel provision, processing of livestock products, and household-level drought response. This places them among the primary holders and transmitters of practical rangeland knowledge. Their influence over land ownership, grazing decisions, productive assets and the community institutions that make resource-governance decisions remains considerably narrower than their role in generating the knowledge those institutions rely on. That gap is a knowledge-governance problem as much as an inclusion one: decisions affecting a resource base are being shaped, in effect, by people with less direct access to the observation base than the people they are deciding for.

Young people sit at a similar intersection of risk and opportunity. Where local economic opportunity does not keep pace, migration toward towns and cities draws away not only labour but the specific generational channel through which grazing calendars, forecasting knowledge and negotiation skills are normally passed on through apprenticeship and direct practice. At the same time, young people are already building new channels for pastoral knowledge and enterprise: digital platforms for livestock trading, mobile market-price applications, climate information services, and documentation projects that record practices their elders hold. Investment in youth-led enterprise and digital tools functions, in this sense, as knowledge-transmission infrastructure as much as an economic programme, because it gives young people a reason to stay engaged with rangeland management rather than a reason to leave it. Persons with disabilities are frequently holders of relevant knowledge and leadership capacity within pastoral communities, and their exclusion from decision-making platforms is more often a function of inaccessible meeting formats and processes than of any absence of knowledge or capability; addressing that exclusion is a matter of participation and access rather than a separate category of concern.

5. From Recognition to Reciprocity

Recognition and reciprocity are not the same commitment, and the difference matters for policy. Recognition means acknowledging, in a strategy document or a policy framework, that indigenous knowledge exists and has value. Reciprocity means changing how research, monitoring, technology and policy processes actually engage with the people who hold that knowledge. A rangeland strategy can recognise indigenous knowledge in its preamble and still be produced entirely by outside researchers and technical staff, with no role for knowledge holders in framing the questions asked, interpreting what the data shows, or deciding how findings are used. Reciprocity requires that communities help define the research questions that concern their own resource base, participate in interpreting findings rather than only supplying raw observation, have a say in how their knowledge is documented and by whom, and receive attribution when their knowledge contributes to a published study, a monitoring tool or a policy recommendation.

Where indigenous knowledge has commercial or technical value, for instance where it informs a fodder product, a forecasting tool or a livestock breeding programme, reciprocity also requires clarity on informed consent, on how data generated with communities is used and by whom, and on some form of benefit-sharing when that knowledge contributes materially to a product or system generating value elsewhere. Kenya does not yet have a settled institutional framework for handling these questions specifically for pastoral and rangeland knowledge, which is a policy gap rather than a technical detail; the absence of clear rules on consent and benefit-sharing tends by default to favour whichever institution collects the data, rather than the communities that generated the underlying observation over generations.

International practice offers a useful point of comparison, though a narrow one. In December 2023, UNESCO inscribed "Transhumance, the seasonal droving of livestock" on the Representative List of the Intangible Cultural Heritage of Humanity, following a joint nomination by ten European states. That inscription recognises a specific European multinational practice; Kenya was not among the states covered, and the listing does not constitute UNESCO recognition of Kenyan or East African pastoral transhumance, nor does it confer any legal protection on Kenyan pastoral knowledge. What the example does demonstrate is that mobility-based livestock systems and the knowledge underpinning them can be treated as heritage worth formal recognition. Kenya still has to build its own mechanisms, suited to its own communities and legal system, for recognising, protecting and making practical use of its pastoral knowledge systems; that work does not follow automatically from recognition achieved elsewhere.

POLICY RECOMMENDATIONS

National Governement

- The State Department for ASALs, working with the National Museums of Kenya, county cultural offices and community representatives, should establish a national inventory of indigenous pastoral knowledge covering seasonal grazing calendars, fodder and drought-feeding practices, weather indicators and customary resource-governance arrangements. The inventory should operate under a documented consent and access framework giving contributing communities shared governance over who can access recorded knowledge, requiring attribution to named or community sources, and setting out how communities benefit if their knowledge is used commercially, so documentation strengthens communities' own capacity to transmit and apply their knowledge rather than transferring control of it to a government archive.

- The Ministry of Agriculture and Livestock Development should require county and national rangeland early-warning and drought-response systems to specify how they incorporate community-based observation and locally generated indicators alongside satellite and meteorological data, so anticipatory local signals inform official drought classifications rather than only confirming them after the fact.

- Kenya's National Commission for UNESCO, working with the State Department for ASALs, should assess what domestic legal and policy mechanisms, rather than international listing, would most usefully recognise and protect Kenyan pastoral knowledge and mobility practices, and should not present recognition achieved elsewhere as a substitute for that domestic work.

County Governments

- County Education Boards should work with KICD, elders' councils, women's groups and other local knowledge holders to develop locally relevant learning materials on indigenous ecological knowledge for ASAL counties, ensuring that knowledge holders participate in their development rather than being consulted only as sources.

- Counties should give customary institutions, elders' councils, grazing committees and peace committees, a defined and funded role in county drought contingency planning and land-use decisions rather than an advisory one, so resource-governance decisions draw on the same knowledge base that already regulates grazing and mobility in practice.

Research and Academic Institutions

- Universities and research institutions, including KALRO, should adopt co-authorship and data-sharing agreements for research that draws on indigenous knowledge, specifying that community contributors are named, retain access to the resulting data, and share in any recognition or value the research produces, rather than being credited only in acknowledgements.

- Research institutions should design studies that test indigenous forecasting, breed-selection and drought-response practices on their own terms, using pastoralist-defined measures of success where relevant, rather than treating scientific replication as the only route by which such practices become credible evidence.

Development and Research Partners

- Fund community-based observation networks, combining local weather stations, satellite data and community-generated livestock and forage indicators, as standing rangeland monitoring infrastructure with multi-year financing, rather than as short-term pilot projects that end when project funding does.

- Support youth-led documentation and enterprise initiatives that keep indigenous knowledge in active use, including digital tools built and maintained by young people from pastoral communities, so knowledge transmission continues through livelihoods young people have a reason to stay engaged with.

- Require that climate information services, mobile advisories and traceability systems funded for pastoral areas include indigenous knowledge holders in design and testing from the outset, with evidence of their input documented in project reporting, rather than limiting community engagement to rollout and training.

CONCLUSION

Kenya's rangelands have been observed, interpreted and managed by the people living in them for longer than any national monitoring system has existed. What that observation produces, knowledge of forage, weather, breeding, water, mobility routes and negotiated access, is neither a fixed inheritance nor an alternative to scientific evidence; it is a distinct evidentiary tradition, continuously tested against a landscape that does not hold still. Naming this knowledge in policy documents is where the work starts, not where it ends. What changes rangeland governance in practice is whether early-warning systems incorporate local indicators before a threshold is crossed, whether monitoring and research are designed with knowledge holders rather than around them, whether county planning gives customary institutions a defined role rather than a consultative one, and whether the people who hold this knowledge, women, elders, young custodians and persons with disabilities among them, have real influence over how it is used and who benefits from it. Building indigenous knowledge into that machinery, rather than reciting its value, is what will determine whether Kenya's rangeland policy is accurate as well as respectful.

Selected references and data sources

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